ACCESSION NR: AP4041052

inhomogeneity I between O_1 and O_2 causes a variation in the illumination of the diaphragm port and, therefore, is recorded by the oscillograph. A 2-slit scheme permits measuring flow speeds (of the shock front and after region). Speed of the contact surface, duration of and nonequilibrium processes in the working flow, gas glow after the shock wave, and impurity-caused glow were measured by the above method. Orig. art. has: 9 figures.

ASSOCIATION: none

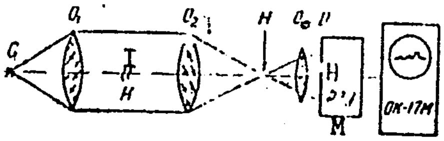
SUBMITTED: 04Jun63 ENCL: 01

SUB CODE: AC NO REF SOV: 002 OTHER: 003

Card 2/3

ACCESSION NR: AP4041052

ENCLOSURE: 01



Optical scheme of the photoelectric shadow method

Card 3/3

MURZIN, Ivan Konstantinovich, kand.tekhn.nauk; KHRISANOV, M.I., kand. tekhn.nauk, red.vypuska; PETUKHOV, P.Z., doktor tekhn.nauk, red.; SUTORIKHIN, V.N., dotsent, red.; SOMOVA, T.M., inzh., red.; GALANIN, A.I., inzh., red.; DUGINA, N.A., tekhn.red.

[Inspection of repair operations] Kontrol' remontnykh operatsii. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 105 p. (Biblioteka slesaria-remontnika, no.10). (MIRA 14:7)

(Machinery—Maintenance and repair)
(Measuring instruments)

GALANIN, A.I., inzh.

Heating of electric substations. Elek. sta. 32 no.11:92 N '61.
(MIRA 14:11)
(Electric substations--Heating and ventilation)

GALANIN, A.L., inzh.

High-speed excitation of small generators. Energetik 9 no.12: 23-24 D '61. (MIRA 15:1)

(Electric generators)

[illegible]

Experience in the operation of 110 kv. separators and short-circuiting devices. Elek. sta. 35 no.3:84-86 Mr '64.
(MIRA 17:6)

Galanin, A.N.

SOV/89-5-3-2/19

AUTHORS: Dollezhal', N. A., Krasin, A. K., Aleshchenkov, P. I., Grigor'yants, A. N., Florinskiy, B. V., Minashin, M. Ye., Yemel'yanov, I. Ya., Kugushev, N. M., Sharapov, V. N., Mityayev, Yu. I., Galanin, A. N.

TITLE: A Uranium-Graphite Reactor With Superheating of Steam of High Pressure. I (Uran-grafitovyy reaktor s peregrevom para vysokogo davleniya)

PERIODICAL: Atomnaya energiya, 1958, Vol. 5, Nr 3, pp. 223-233 (USSR)

ABSTRACT: The 400 MW plant is equipped with 4 uranium-graphite reactors. A reactor and a steam turbine of 100 MW together form a closed block. A number of investigations was carried out for the purpose of checking the individual parts of this block. The following results were obtained:

1) With a thermal flux of $\sim 1.10^6$ kcal/m^{2}h the steam content by weight at the outlet attains a value of up to 20%.

2) Several hundred hours' uninterrupted operation of a channel in the boiling stage did not disrupt the channel.

3) The activity of the steam condenser was found to be 10 times

Card 1/3

lower than that of the water in the separator.

4) If the content of steam in the steam-water mixture attains 15 - 20%, a pulsation of the consumption of the mixture occurs. From the moment at which the steam mixture passes from the separator into the turbine, pulsation stops and does not occur again in the course of a further increase of the steam phase.

5) During the initial development of the waterlevel in the separator the temperature in the fuel channels fluctuates considerably. As soon as stable conditions are established, these fluctuations cease.

6) The steam-water mixture was not found to be delayed in any of the channels.

From a plurality of varieties the best scheme for the production of superheated steam was selected (see figures). The turbogenerator BK-100 operates with a steam of 90 atm and a temperature of 480 - 535° C.

The following are the physical characteristics of the reactor:

Thermal output	285 MW
Electrical output	100 MW
Average cycle	730 days
Uranium charge	90 tons

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Uranium enrichment at the beginning of a cycle	1,3 %
Uranium enrichment at the end of a cycle	1,03 %
Breeding ratio at the beginning of a cycle	65 %
Breeding ratio at the end of a cycle	55 %
Amount of U-235 burned-up during a cycle	243 kg
Amount of Pu-239 burned-up during a cycle	55 kg
Amount of Pu-239 and Pu-241 at the end of a cycle	132 kg
Excess reactivity for temperature effect	0,040
Excess reactivity for poisoning	0,015
Excess reactivity for the fuel burn-up and long-lived fission fragments	0,025
Total excess reactivity	0,080

There are 8 figures.

Card 3/3

G. Alanin, A. N.

SOV/89-5-3-5/15

AUTHORS: Dollezhal', N. A., Krasin, A. K., Aleshchenkov, P. I., Grigoryants, A. N., Florinskiy, B. V., Minashin, M. Ye., Yemel'yanov, I. Ya., Kugushev, N. M., Sharapov, V. N., Mityayev, Yu. I., Galanin, A. N.

TITLE: A Uranium-Graphite Reactor With Superheating of Steam of High Pressure. II (Uran-grafitovyy reaktor s peregrevom para vysokogo davleniya) (Continued from abstract 2/15)

PERIODICAL: Atomnaya energiya, 1958, Vol. 5, Nr 3, pp. 233-244 (USSR)

ABSTRACT: The graphite mantle of the reactor (diameter 9.6 m, height 9 m) is built into a cylindrical steel container. The container is filled with nitrogen in order to prevent burn-up of the graphite. The active zone of the reactor has a diameter of 7.2 m and a height of 6 m. As a lateral reflector graphite of 0.8 m thickness is used. Graphite of 1 m thickness is used as upper reflector, and above it a layer of cast iron having a thickness of 0.5 m is fitted. Together, these components serve as the main portion of the upper biological shield. Graphite of 0.6 m thickness is used as lower reflector. In the graphite structure openings for 1134 channels are provided. 730 of them are provided with fuel elements which are cooled by means of boiling water and contain up to 35% percentage by weight of steam at the output. 248 channels are cooled by steam which is heated up to the corresponding turbine temperature. Six channels contain the automatic regulating rods, 78 channels are provided for the compensation rods, and 16 for the shim rods. The ionization chambers and counting tubes are located in 36 channels. The fuel channels, the regulating- and shim rods as well as the arrangement of the channels in the active zone are shown in form of drawings. The circuit diagram for the reactor turbine shows the connection between the reactor, the two-stage turbine, two condensers, a system of additional heating of the feed-water, a de-aerator (6 atm), 2 preheaters (for high pressure), condensation- and feed pumps. The water is conveyed into the boiling channels by way of two centrifugal pumps. When entering these channels the water has a temperature of 300° C and a pressure of 155 atm. The mixture of steam and water formed in these channels reaches the separator, where steam and water are separated. From here the water is conveyed to the preheater of the steam generator (which consists of 2 parts), where it is cooled from the saturation temperature of 340° C (pressure in the separator 150 atm) down to 300° C. Heat is transferred to the feed-water of the secondary circuit. The water of this circuit is in the first section of the preheater brought from a temperature of 215° C to saturation temperature, which corresponds to a pressure of 110 atm. In the second part it is evaporized until the quantity of steam corresponding to weight attains 20%. The secondary steam produced in the steam generator is led into the steam channels of the reactor, where it is heated up to a temperature of 510° C. The steam reaches the turbine with a pressure of 90 atm and a temperature of 500° C. The main building of the electric power plant consists of 4 parts arranged one behind the other, the machine hall, the operation rooms, the de-aerator, and the reactor hall. For an average cycle of 750 days it is shown by calculation that the cost of atomic kWh are equal to the kWh obtained by means of the usual fuels. Fuel costs amount to from 30 to 40% of the total costs. If the fuel channels and fuel elements operate in a stable manner, it can be proved that by a slight increase of the degree of enrichment in uranium the average cycle can be increased, which leads to a reduction of costs. There are 9 figures and [illegible]

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Card 2/4

Card 3/4

L 16921-65 FS(m)/EWT(1)/EWP(m)/EWG(v)/T-2/FCS(k) Pd-1/Pe-5 ASD(f)-2/AEDC(a)/
AFETR/AFTC(a)

ACCESSION NR: AR4045232 S/0124/64/000/007/B041/B041

8

SOURCE: Ref. zh. Mekhanika, Abs. 7B278

AUTHOR: Galanin, A.V.

TITLE: The flow around a rectilinear profile with reactive wing flap near the surface of the Earth

CITED SOURCE: Sb. Itog. Nauchn. konferentsiya Kazansk. un-ta za 1962 g. Sekts. matem. n. Kazan', Kazansk. un-t, 1963, 163-167

TOPIC TAGS: aerodynamics, lifting force, rectilinear wing, reactive wing flap, air stream velocity

TRANSLATION: For the solution of the problem of determining the complex-conjugate velocity of a disturbed stream, an auxiliary analytical function is introduced which is determined on the basis of periodic theta-functions, the arguments of which are complete elliptical integrals of the first order. By means of further transformations, this analytical function is expanded, under certain additional conditions, into an infinite trigonometric series, the factors of which are determined, respectively, from an

Card 1/2

L 16921-65

ACCESSION NR: AR4045232

0

infinite linear algebraic equation system. In conclusion, an integral expression is derived for the lifting force factor of a disk with a reactive wing flap. A. M. Volodko.

SUB CODE: ME, AC ENCL: 00

Card 2/2

L 00575-66 EWP(m)/EWT(1)/FCS(k)/EWA(d)/EWA(1)

ACCESSION NR: AR5019356 UR/0124/65/000/007/B039/B039

SOURCE: Ref. zh. Mekhanika, Abs. 7B278

93
B

AUTHOR: Galanin, A. V.

TITLE: A symmetric airfoil with a jet flap in a flow of incompressible fluid

CITED SOURCE: Sb. Itog. Nauchn. konferentsiya Kazansk. un-ta za 1963 g. Sekts. matem, kibernet. i teoriya veroyatn., mekhan. Kazan', 1964, 104-105

TOPIC TAGS: irrotational flow, incompressible fluid, jet flap airfoil, irrotational flow analysis

TRANSLATION: The report discusses a case of irrotational flow. Solution of the problem is reduced to defining the turbulence velocity potential φ (x, y) from the integro-differential equation

$$\frac{\partial\varphi}{\partial x}-\frac{\lambda}{\pi}\int_{l}^{\infty}\frac{\varphi_{\xi\xi}\,d\xi}{\xi-x}=-\frac{v_\infty}{\pi}\int_{0}^{l}\frac{f'_{\xi}\,d\xi}{\xi-x}\quad(x>l)$$

postulating the condition

$$\frac{\partial\varphi}{\partial x}=\frac{\theta_\infty-\theta_0}{\lambda}$$

L 00575-66

ACCESSION NR: AR5019356

at the trailing edge of the airfoil ($x=l$). Here, ε_∞ and ε_0 are stream widths in infinity and on the trailing edge, $t(x)$ is the thickness of the airfoil, l is the chord, and λ is a constant. In addition, an expression is written for an airfoil bounded by two rectilinear walls. V. I. Kholyavko

SUB CODE: AC, ME ENCL: 00

Card 2/2

L 00596-66 EWT(1)/EWP(m)/EWA(d)/FCS(k)/EWA(1)

ACCESSION NR: AR5019357 UR/0124/65/000/007/B039/B039 17 D

SOURCE: Ref. zh. Mekhanika, Abs. 7B279

AUTHOR: Galanin, A. V.

TITLE: Aerodynamic properties of airfoils with jet flaps in a flow of incompressible fluid bounded by flat walls

CITED SOURCE: Sb. Itog. Nauchn. konferentsiya Kazansk. un-ta za 1963 g. Sekts. matem, kibernet. i teoriya veroyatn., mekhan. Kazan', 1964, 106-108

TOPIC TAGS: jet flap airfoil, aerodynamic property, flat wall channel, incompressible fluid flow, bounded incompressible fluid

TRANSLATION: Formulas are presented for calculating lift factors and the aerodynamic moment for a thin airfoil with a jet flap and a flat airfoil with a flap and a stream in a rectangular channel. Numerical examples are omitted. V. I. Kholyavko

SUB CODE: AC, ME ENCL: 00

Card 1/1 DP

L 00576-66 EWT(1)/EWP(m)

ACCESSION NR: AR5019358 UR/0124/65/000/007/B039/B039

14 B

SOURCE: Ref. zh. Mekhanika, Abs. 7B280

AUTHOR: Galanin, A. V.

TITLE: Lift factors for rectilinear airfoils with a jet flap in proximity to the ground

CITED SOURCE: Sb. Itog. Nauchn. konferentsiya Kazansk. un-ta za 1963 g. Sekts. matem kibernet. i teoriya veroyatn., mekhan. Kazan', 1964, 108-109

TOPIC TAGS: flat airfoil, jet flap, mechanical flap, ground level environment, lift factor calculation

TRANSLATION: Similarly to a preceding report (see abstract 7B279), lift factors of a rectilinear airfoil with a jet flap are calculated from the formula $c_y = c_{y_p} + \Delta c_{y_j} + c_j \beta_0$. Here c_{y_p} is the lift factor of a flat plane near the ground; Δc_{y_j} is the increase in lift factor attributable to a redistribution of pressure produced by the jet flap; $c_j \beta_0$ is the vertical component of the stream's reaction (c_j is stream coefficient, β_0 is angle of stream escape at

Card 1/2

L 00576-66

ACCESSION NR: AR5019358

the airfoil trailing edge). The magnitude Δc_{y_z}, which reflects an increase in lift resulting from the deflection of the airfoil trailing part, is augmented even further in the case of a mechanical flap. Formulas are given for calculating all components. Numerical examples are omitted. V. I. Kholyavko

SUB CODE: AC, ME ENCL: 00

Card 2/2

L 24669-65 EWP(m)/EWG(v)/EWA(h)/EWP(k)/EWT(d)/EWT(1)/EWT(m)/FCS(k)/FS(m)/T-2/EWA(d)/
EWA(1)/EWP(w)/EWP(v) Pd-1/Pe-5/Pf-4/ Pab EM
ACCESSION NR: AR5001020 S/0124/64/000/010/B024/B024

SOURCE: Ref. zh. Mekhanika. Abs. 10B147

34
13

AUTHOR: Galanin, A. V.

TITLE: Calculation of flow around the lattice of thin, lightly curved, jet-flapped airfoils 26

CITED SOURCE: Sb. aspirantsk. rabot. Kazansk. un-t. Matem., mekhan., fiz. Kazan', 1964, 112-122

TOPIC TAGS: jet flap airfoil, compressor lattice, thin curved airfoil, hydrodynamic similarity analysis, jet flap effectiveness, isolated airfoil

TRANSLATION: The use of jet-flapped airfoil lattices as compressor lattices makes it possible to correct the detachment of a rotary flow. The study comprises a generalization of the problem of flow around an isolated jet-flapped airfoil. The author presents a calculation of the hydrodynamic forces acting on an airfoil in a lattice of thin, lightly curves, jet-flapped airfoils in an external flow of incompressible fluid. The effect of the jet flap stream on the external flow is simulated by a system of turbulences continuously distributed along the center line of the stream and acting with an intensity related to the geometric and dynamic parameters of the stream. The angle of attack of the onrushing flow

Card 1/2

L 24669-65
ACCESSION NR: AR5001020

and the escape angle of the jet flap stream are assumed to be small. Considering these assumptions, a formula is derived to describe the principal vector of forces acting on the airfoil and jet-flap plate in the lattice and the author calculates a value for the increase in angle of attack equivalent to the effect of a jet stream. Results of numerical calculations are given for a lattice of plates with a relative pitch of 1, at a stream pulse coefficient of 0.5, and indicate that the effectiveness of a jet flap is about 20% lower in this case than for an isolated airfoil. B. N. Mel'nikov.

SUB CODE: ME ENCL: 00

Card 2/2

GALANIN, B.

With rural electrification workers. Sel'. stroi no.5:7-9 My '62.
(MIRA 15:7)

1. Upravlyayushchiy Novosibirskim trestom Spetselektromontazh.
(Novosibirsk Province--Rural electrification)

1. D. GALANIN, Z. TUPIKOV

2. USSR (600)

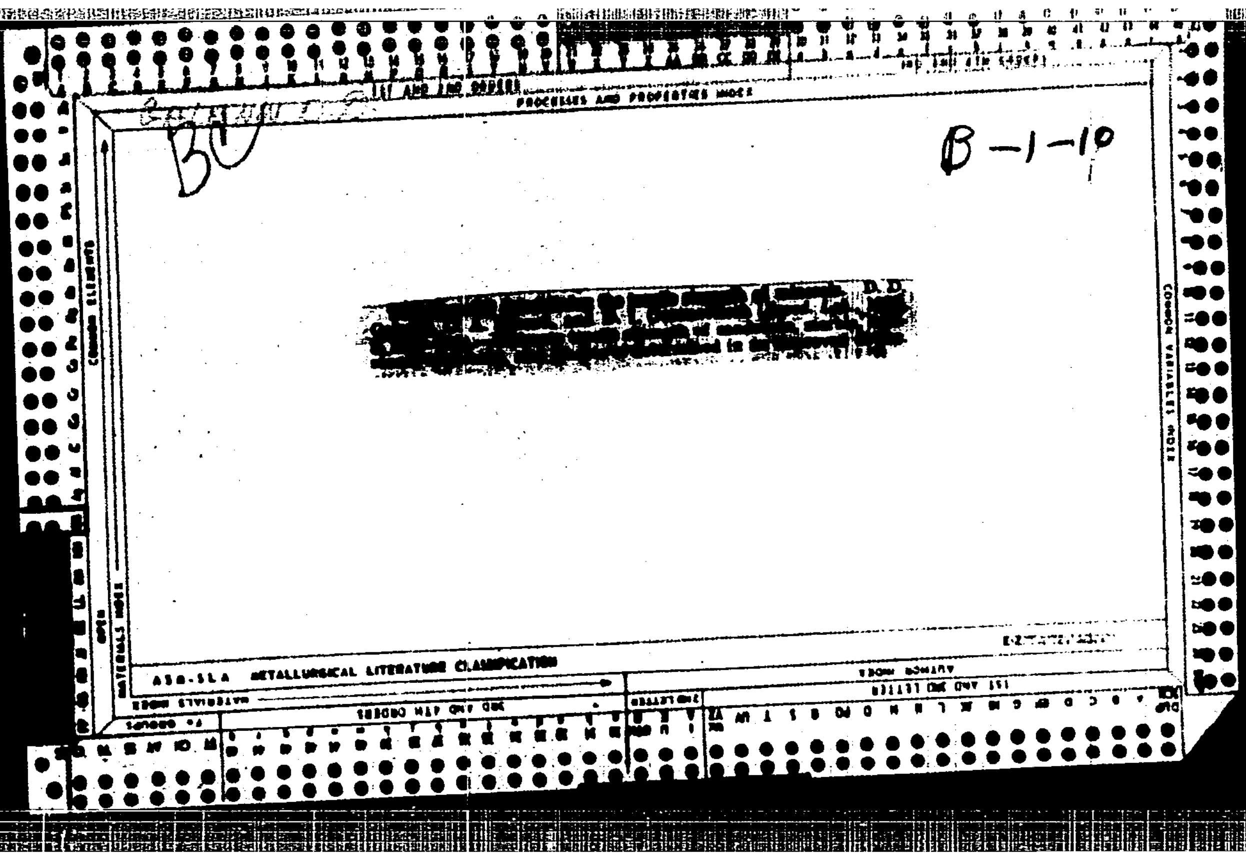
4. Asbestos

7. Asbestos market of capitalistic countries. Vnesh. torg. 22 no. 12. 1952.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

TITOV, N.; GALANIN, D.

U.S.S.R. chemical industry and foreign trade in chemical goods. Vnesh.torg. 30 no.3:37-42 '60. (MIRA 13:3)
(Chemical industry) (Russia--Commerce)



1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

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B-1-10

[redacted]

COMMON ELEMENTS

COMMON VARIABLES INDEX

OPEN

MATERIALS INDEX

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

3RD AND 4TH ORDERS

2ND LETTER

1ST AND 2ND LETTER

AUTHOR INDEX

GALANIN, D.D., professor (Moscow).

Demonstration in physics. Fiz.v shkole 7 no.1:77-78 '47.
(MLRA 6:11)
(Physics--Study and teaching)

1. GALANIN, D. D.

2. USSR (600)

4. Physics and Mathematics

7. Course in Physics, N. V. Kashin.(Vol 1 (Mechanics, Molecular Physics, Thermodynamics), For Teacher's Institutes, Moscow, Education and Pedagogic Press, 1948) Reviewed by D. D. Galanin, Sov. Kniga, No. 10, 1949.

9. [redacted] Report U-3081, 16 Jan. 1953. Unclassified.

GALANIN, D. D.

23724 OPYTY LEBEDEVA PO IZUCHENIYU DAVLENIYA SVETA. FIZIKA V SHKOLE, 1949, NO. 3, S. 43-51

SO: LETOPIS' NO. 31, 1949

GALANIN, D.D.

Outline of methodology in the teaching of mechanics; acceleration and force (second article). Fiz.v shkole 7 no.4:16-29 '53. (MLRA 6:11)

1. Chlen-korrespondent Akademii pedagogicheskikh nauk (Rossiyskoy Sotsialisticheskoy Federativnoy Sovetskoy Respubliki) (Moscow). (Mechanics)

GALANIN, D.D., professor, chlen-korrespondent (Moskva).

Some current problems in the methodology of physics. Fiz. v shkole 13 no. 3:23-26 My-Je '53. (MLRA 6:6)

1. Akademiya pedagogicheskikh nauk RSFSR. (Physics)

GALANIN, D.D.; GORYACHKIN, Ye.N.; REZNIKOV, L.I.; MINCHENKOV, Ye.Ya.
YUS'KOVICH, V.F.

Vissarion Nikolaevich Bakushinskii; an obituary. Fiz. v shkole 14 no.5:95 S-O '54. (MLRA 7:9)
(Bakushinskii, Vissarion Nikolaevich, 1889-1954)

GALANIN, D.D., professor (Moscow)

Quantities of motion and impulse in high school physics. Fiz. v shkole 14 no.6:35-42 N-D '54. (MLRA 7:12)

1. Chlen-korrespondent Akademii pedagogicheskikh nauk RSFSR.
(Motion) (Force and energy)

GALANIN, D.D. (Moskva)

How large is a million. Mat. v shkole no.6:33-34 N-D '55.
(Mathematical models) (MIRA 9:2)

GALANIN, D.D., professor (g.Moskva); VELETSKIY, A.N. (g.Nikolayev).

Review of prof. N.N.Malov's article. Fiz. v shkole 15 no.1:43-46 Ja-F '55. (MLRA 8:2)
(Physics--Study and teaching) (Malov, N.N.)

GALANIN, D.D., professor (Moskva)

Relating the teaching of physics to technology. Fiz. v shkole 16 no.2:25-31 Mr-Ap '56. (MIRA 9:6)
(Physics--Study and teaching)(Technology--Study and teaching)

BELOGORSKAYA, N.I.; GALININ, D.D.; GORYACHKIN, Ye.N.; GLAZYRIN, A.I.; DUBOV, A.G.; YEVROPIN, Yu.P.; YENOKHOVICH, A.S.; ZVORYKIN, B.S.; IVANOV, S.I.; KRAUKLIS, V.V.; LAVROVSKIY, K.F.; MENSHUTIN, N.F.; MINCHENKOV, Ye.Ya.; NABOKOV, M.Ye.; PERYSHKIN, A.V.; POPOV, P.I.; POKROVSKIY, A.A.; REZNIKOV, L.I.; SAKHAROV, D.I.; SOKOLOV, I.I.; SOKOLOVA, Ye.N.; EVENCHIK, E.Ye.; YUS'KOVICH, V.F.

Sergei Nikolaevich Zharkov. [Obituary]. Fiz.v shkole 16 no.3:94-95 My-Je '56.
(Zharkov, Sergei Nikolaevich, 1883-1956) (MIRA 9:7)

GALANIN, D.D.

AUTHOR: Galanin, D.D., Professor (Moskva) 47-5-9/16

TITLE: 40 Years of Development in Constructing School Equipment (Razvitiye shkol'nogo priborostroyeniya za 40 let)

PERIODICAL: Fizika v Shkole, September-October 1957, No 5, pp 63-69 (USSR)

ABSTRACT: The article emphasizes the increasing significance of teaching physics in schools and the importance of experimental demonstrations and laboratory work. It points to the poorly outfitted schools of pre-revolutionary Russia and describes the various stages of development in the manufacture and supply of school equipment. In 1944, the then existing Institute of Schools was expanded and transformed into the present Institute for Methods of Instruction of the RSFSR Academy of Pedagogical Science (Institut metodov obucheniya Akademii pedagogicheskikh nauk RSFSR). Its section for visual aids and physics laboratory methods is responsible for the supply of equipment to these laboratories. Mention is made of the model physics plant of the 315th School in Moscow. The author says that a physics teacher should be able to acquire all that is needed for experimental instruction in special school-equipment shops, and adds that school workshops should be organized for the students' practical training, as this training will in-

Card 1/2

40 Years of Development in Constructing School Equipment 47-5-9/16

crease from year to year.
The article cites one Slavic reference.

AVAILABLE: Library of Congress

Card 2/2

Галанин Д.Д.

ARTSYBYSHEV, N.A.; BELOGORSKAYA, N.I.; VINOGRADOVA, L.Yu.; GALANIN, D.D.;
GUR'YEVA, V.V.; ZVORYKIN, B.S.; ZORE, V.A.; LIVENTSEV, N.M.;
MENSHUTIN, N.F.; MINCHENKOV, Ye.Ya.; POKROVSKIY, A.A.; REZNIKOV, L.I.;
SAKHAROV, D.I.; TIKHONOVA, Z.I.; KHLEBODAROV, S.F.; SHEYMAN, M.I.;
YUS'KOVICH, V.F.

Professor S.A. Artsybyshev; obituary. Fiz. v shkole 18 no.1:95-96 Ja-F '58. (MIRA 11:1)
(Artsybyshev, Sergei Aleksandrovich, 1887-1957)

SOKOLOVSKIY, Yuriy Iosifovich; GALANIN, D.D., red.; SHAPOSHNIKOVA, A.A., red.; LEVINA, A.B., red.; TARASOVA, V.V., tekhn. red.

[The concept of work and the law of conservation of energy; a scientific methodological analysis with a historical review] Poniatie raboty i zakon sokhraneniia energii; nauchno-metodicheskii analiz s istoricheskim ocherkom . Pod red. i s predisl. D.D.Galanina. Moskva, Izd-vo Akad. pedagog. nauk RSFSR, 1962. 339 p. (MIRA 15:11)

1. Chlen-korrespondent Akademii pedagogicheskikh nauk RSFSR (for Galanin).

(Force and energy)

BELOGORSKAYA, N.I.; BLUDOV, M.I.; BRAVERMAN, E.M.; BULATOV, N.P.; GALANIN, D.D.; GOL'DFARB, N.I.; YEVROPIN, G.P.; YEGOROV, A.L. YENOKHOVICH, A.S.; ZVORYKIN, B.S.; IVANOV, S.I.; KAMANETSKIY, S.Ye.; KRAUKLIS, V.V.; LISENKER, G.R.; MALOV, N.N.; MANOVETOVA, G.P.; MENSHUTIN, N.F.; MINCHENKOV, Ye.Ya.; PERYSHKIN, A.V.; POKROVSKIY, A.A.; POPOV, P.I.; RAYEVA, A.F.; REZNIKOV, L.I.; SOKOLOV, I.I.; YUSKOVICH, V.F.; ZVENCHIK, Z.Ye.

Dmitrii Ivanovich Sakharov; obituary. Fiz.v shkole 22 no.1:109-110 Ja-F '62. (MIRA 15:3)
(Sakharov, Dmitrii Ivanovich, 1889-1961)

BELOGORSKAYA, N.I.; BLUDOV, M.I.; GALANIN, D.D.; YEVROPIN, G.P.;
POKROVSKIY, A.A.; POPOV, P.I.; ZVORYKIN, B.S.; IVANOV, S.I.;
KRAUKLIS, V.V.; MINCHENKOV, Ye.Ya.; PERYSHKIN, A.V.; REZNIKOV, L.I.;
SOKOLOV, I.I.; SUBOROV, N.P.; YUS'KOVICH, V.F.

Evgenii Nikolaevich; obituary. Fiz.v shkole 22 no.1:111 Ja-F '62. (MIRA 15:3)

(Goriachkin, Evgenii Nikolaevich, 1895-1961)

GALANIN, I.F.; TYUKOV, D.M.

Relationship of wearing apparel fabrics and ultraviolet rays. Gig.i san.no.2:3-9 F '54. (MLRA 7:2)

1. Leningradskiy nauchno-issledovatel'skiy sanitarno-gigiyenicheskiy institut. (Ultraviolet rays)

GALANIN, K.P.; FILIPPOV, V.V., inzhener, redaktor; VERINA, G.P., tekhnicheskiy redaktor

[Stone-cutting machine for underground quarrying of stone blocks]
Kamnereznaia mashina dlia podzemnoi dobychi shtuchnykh kamnei.
Moskva, Gos. transp.zhel-dor. izd-vo, 1954. 78 p. (MLRA 10:1)
(Stonecutting)

100-9-5/11

AUTHOR: Galanin, K.P., Engineer

TITLE: Modernisation of a Stone-cutting Machine for Underground Cutting of Rubble (Modernizatsiya kamnereznoy mashiny dlya podzemnoy dobychi shtuchnogo kamnya)

PERIODICAL: Mekhanizatsiya Stroitel'stva, 1957, No.9, pp. 15 - 17 (USSR).

ABSTRACT: This machine, by Engineer K.P. Galanin, has been used in the industry for building materials since 1951. When it was installed in Moldavia, the output was increased considerably. Its advantage lies in its small size and weight. The output of the Bychkovsk and Krikovsk quarries was also increased to a considerable extent. In the former, the output per shift reached 14 to 16 m^3, the average output per shift in the Krikovsk quarry amounted to 12 m^3, with a maximum output of 26 m^3. The machine is not satisfactory when the crushing strength of rock exceeds 100 kg/cm^2. The Machine Factory imeni Kotovsk (Mekhanicheskiy zavod imeni Kotovskogo) in Kishinev, manufactures at present a modernised stone-cutting machine (Fig.1). The power of the electric motor is increased from 14 kW to 28 kW with a corresponding increase in the transmission and of the weight of the machine. These machines can cut rock with a crushing strength

Card1/3

100-9-5/11

Modernisation of a Stone-cutting Machine for Underground Cutting of Rubble

of up to 100 kg/cm^2. There are 3 speeds and the idling speed is 6 m/min. The discs can cut stone blocks of 400 to 500 mm height (disc diameter is 1 330 mm), the blocks weighing up to 500 kg. A flexible, circular cutter is used when blocks of 1 000 mm height and 1 500 kg weight are cut. The author tested the cutting properties of Moldavian limestones in the Laboratory for Natural Stone (Laboratoriya estestvennogo kamnya stroitel'nykh materialov) which is attached to the Moldavian branch of the Ac.Sc. USSR. The cutting discs were improved on the basis of results obtained during this investigation. The earlier disc, designed by the author (author's certificate No. 4566) differs from other discs by the position of the cutting edges. The blade has perforations for extracting the stone dust from the cut and to protect the disc from overheating. On account of decreasing the power consumption, it was possible to increase the diameter to 1 330 mm (as against 1 200 mm) and to increase the depth of the cutting from 430 mm to 520 mm without having to increase the capacity of the dynamo (Fig.2). The number of serrations are reduced from 72 to 45. It is possible to use 4 discs instead of 2 discs used previously also without having to increase the motor rating

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100-9-5/11

Modernisation of a Stone-cutting Machine for Underground Cutting of Rubble

(Fig.3). The distance of the discs can be adjusted to be between 215 - 265 mm. The internal discs are at a fixed distance of 1 075 mm. Fig. 4 illustrates a scheme for using this 4-disc machine which operates at twice the speed of the old machine.
There are 4 figures.

AVAILABLE: Library of Congress
Card 3/3

1. Stone cutting machines-USSR 2. Quarries-Equipment

GALANIN, K.P., inzh.

Most efficient system for cutting file limestone deposits in the Moldavian S.S.R. Stroi. i dor. mashinostr. 2 no.12:15-19 D '57.
(MIRA 11:2)

(Moldavia--Limestone) (Stonecutting)

GALANIN, K. P., Can Tech Sci -- (diss) "Subterranean ~~Mining~~ recovery of ~~the~~ building block rubble by ~~a~~ disk machi a ne." Mos, 1958. 16 pp. (Acad Sci USSR, Inst ~~Min Industry~~ of Mining), 100 copies. (KL, 9-58, 117)

GALANIN, K.I., kand. tekhn. nauk; CHERNUK, [illegible], [illegible], Ya.A.;
KHALAGH, R., red.

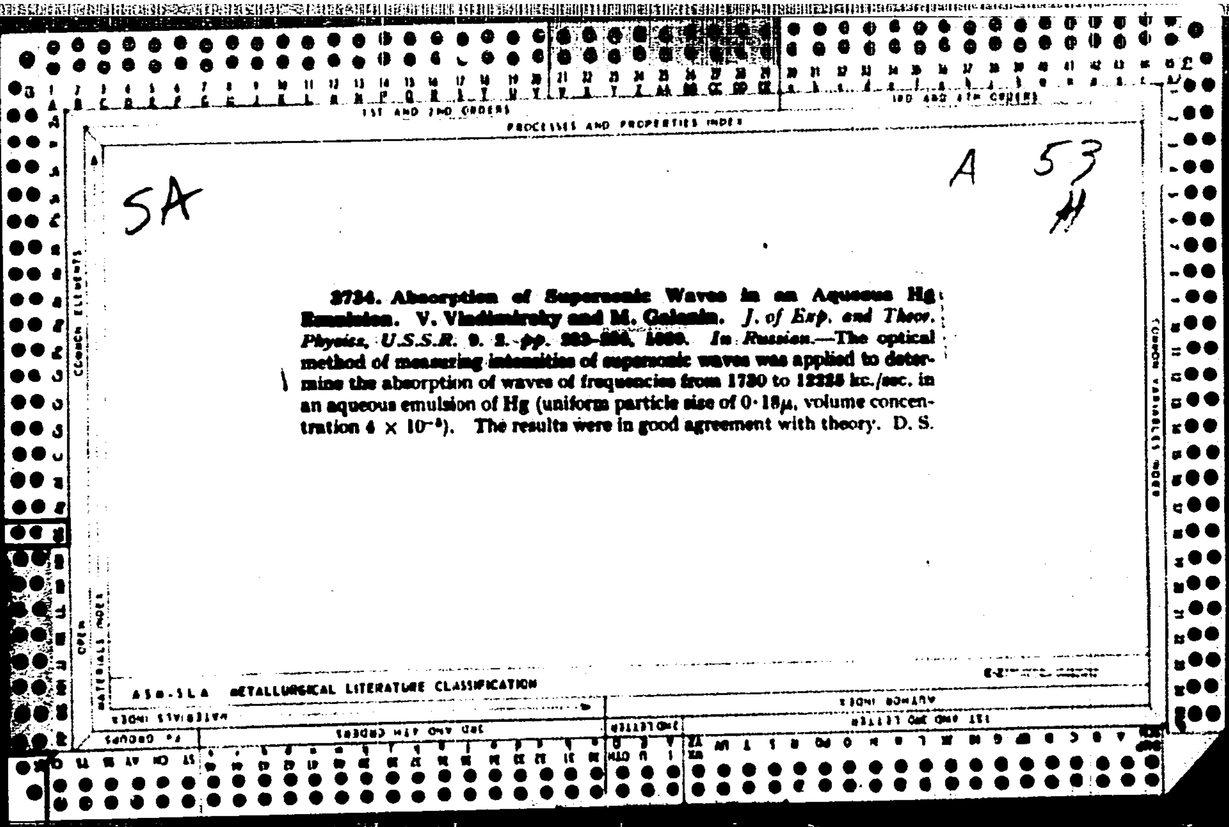
[Optimum cutting conditions and the geometry of disk cutters of stonecutting machines] Optimal'nye rezhimy rezaniia i geometriia reztsov diskov kamnereznykh mashin. Kishinev, Kartia moldoveniaske, 1964 103 p. (MIRA 18:9)

GALANIN, K.P., kand. tekhn. nauk

Trends of the technological progress of the building stone industry in Moldavia. Sbor. trud. Kish. otd. NIISMI no.4:3-7 '64.
(MIRA 18:2)

GALANIN, M.D.; SMORCHKOV, V.N.; CHIZHIKOVA, Z.A.

Luminescence and absorption spectrum of excited ruby. Opt. i spektr. 19 no.2:296-298 Ag '65. (MIRA 18:8)


1ST AND 2ND ORDERS
PROCESSES AND PROPERTIES INDEX
3RD AND 4TH ORDERS
A.S.M.-S.L.A. METALLURGICAL LITERATURE CLASSIFICATION
MATERIALS INDEX
AUTHOR INDEX

5A

A 53

H

3734. Absorption of Supersonic Waves in an Aqueous Hg Emulsion. V. Vladimirsky and M. Galanin. *J. of Exp. and Theor. Physics, U.S.S.R.* 9. 2. pp. 283–284, 1939. *In Russian.*—The optical method of measuring intensities of supersonic waves was applied to determine the absorption of waves of frequencies from 1730 to 12225 kc./sec. in an aqueous emulsion of Hg (uniform particle size of 0·18μ, volume concentration 4 × 10^{-4}). The results were in good agreement with theory. D. S.

GALANIN, M. D. FA 53T94

USSR/Physics
Fluorescence
Damping

Sep 1947

"Concentrated Depolarization of Fluorescence in Damping," M. D. Galanin, Phys Inst imeni P. N. Lebedev, Acad Sci USSR, 4 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 9

Author digresses from theory submitted by S. I. Vavilov and on basis of resonance transfer of operating energy, develops formula to determine rules of damping of parallel and perpendicular components of fluorescence intensity for a "c" degree of concentration. Submitted by Academician S. I. Vavilov, 23 Jul 1947.

[redacted]

53T94

GALANIN, M. D.

PA 68T99

USSR/Physics
Phosphorous Compounds
Luminescence

May 1948

"Duration of the Initial Process of Luminescence of Phosphorous Compounds," M. D. Galanin, Phys Inst imeni P. N. Lebedev, Acad Sci USSR, 2 pp

"Dok Ak Nauk SSSR" Vol LX, No 5

Results of phosphoroscopic and oscillographic studies on luminescent qualities of phosphorous compounds. Particular attention directed to short term luminescence. Studied with aid of fluoroscope. Submitted by Academician S. I. Vavilov 14 Feb 1948.

[redacted]

68T99

GALANIN, M.D.

Duration of the initial process of phosphorescence. Dokl. AN SSSR 60 no.5:783-784 My '48.
(MLRA 10:8)

1. Fizicheskiy institut im. P.N. Lebedeva Akademii nauk SSSR. Predstavleno akademikom S.I. Vavilovym.
(Phosphorescence)

GALANIN, M. D.

PA 36/49T101

USSR/Physics
Fluorescent Materials
Luminescence

Jan/Feb 49

"Experimental Study of Energy Migration in Fluorescent Solutions," S. I. Vavilov, M. D. Galanin, F. M. Pekerman, 15 pp

"Iz Ak Nauk SSSR, Ser Fiz" Vol XIII, No 1

Macroscopic physical characteristics of rarefied gases and vapors are simply the sum of the microscopic characteristics of the separate molecules. In condensed gases, however, a qualitative change in molecular characteristics occurs due to interaction, and therefore gas characteristics differ

36/49T101

USSR/Physics (Contd)

Jan/Feb 49

from those of the separate particles. Studies one group of such collective phenomena: effect of concentrating solutions of complex organic molecules on their photoluminescence, which in turn is dependent on their radiation and absorption spectra, yield, polarization, and duration.

36/49T101

GALANIN, M. D.

USSR/Physics
Molecular Spectra

Mar 49

"Duration of the Excited State in Molecules of Anthraquinone Derivatives in Vapors and Adsorbates," A. V. Karyakin, M. D. Galanin, 3 3/4 pp

"Dok Ak Nauk SSSR" Vol LXVI, No 1

Agreement of values obtained by different methods shows that average duration of an excited state in moelcules of anthraquinone derivatives (except beta-methyl anthraquinone) has the same value for vaporous and adsorbed states. Each collision of an excited molecule with oxygen is effective.

Submitted by Acad A. N. Terenin, 11 Mar 49

PA 50/49T91

GALANIN, M. D.

USSR/Physics - Radiation
Light Absorption

Aug 49

"Radiation and Absorption of Light in a System of Inductively Bound Molecules," S. I. Vavilov, M. D. Galanin, Phys Inst imeni P. N. Levedev, Acad Sci USSR, 7 pp

"Dok Ak Nauk SSSR" Vol LXVII, No 5

Problems discusses in optics are limited explicitly or implicitly by the assumption that the distances r between radiating and absorbing molecules are much greater than the corresponding lenght of the light wave L, thus excluding the reverse case of the inductive bond between molecules. Discusses for the first time the case where r is much smaller than L. The ordinary absorption formula I = I_0 exp (as-), for the new das e, is found to assume a more complicated form.

PA 66/49T93

GALANIN, M.D.

USSR .

30

Duration of the excited state of a molecule and the properties of fluorescent solutions. M. D. Galanin. Trud. Fiz. Inst., Akad. Nauk S.S.S.R. 5, [illegible] cf. C.A. 44, 4789g.—Processes which occur with activated mols. have been studied for fluorescent solns. The duration of e fluorescence, relative yield, and the degree of polarizatio were measured. The resonance migration of the excitation energy leading to the depolarization fluorescence with increasing concn. of the soln. and processes for the extinguishing of fluorescence due to the deactivation of the excited mols. are discussed. Measurements have been made with the following: anthracene (vapor and crystals), Na salicylate (crystal), acridine sulfate in ether soln. The duration times have been τ = 2.6 × 10⁻⁹, 5.9 × 10⁻⁹, 10 × 10⁻⁹, and 35 × 10⁻⁹ sec., resp. J. Rovtar Leach

GALANIN, M. D.

PA 165T68

USSR/Physics - Fluorescence 21 Feb 50

"Influence of Temperature Upon the Duration of Luminescence of Fluorescent Solutions," M. D. Galanin, Phys Inst imeni P. N. Lebedev, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol LXX, No 6, pp 989-990

Temperature dependence of duration of excited state in fluorescent solutions is generally connected with extinguishing of fluorescence. Decrease in luminescence time for increasing temperature was observed among certain fluorescing dyes as far back as 1927 by Gaviola (Zs.f. Phys. 42, 853). Others (Cram in 1936, Zs.f. Phys. 103 559)

165T68

USSR/Physics - Fluorescence (Contd) 21 Feb 50

showed small increase (25%) in duration for decreasing temperatures. However, C. I. Vavilov and A. N. Sevchenko found no variation in duration with temperature. Submitted 20 Dec 49 by Acad S. I. Vavilov.

165T68

GALANIN, M. D.

PA 175T97

USSR/Physics - Fluorescence 11 Aug 50

"**Measuring the Duration of Fluorescence on the** 'Phase Fluorometer,'" M. D. Galanin, Phys Inst imeni Lebedev, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol LXXIII, No 5, pp 925-927

Describes app that measures times of fluorescence of order 10^{-9} sec and damping time tau, by means of amplitude and phase modulation of standing ultrasonic wave in piezoquartz. Table of 13 fluorescent soln and their damping times. Submitted 14 Jun 50 by Acad S. I. Vavilov.

[redacted] 175T97

GALANIN, M. D. 180T94

USSR/Physics - Fluorescence Feb 51

"Extinguishment of Fluorescence by Light Absorbing Medium," M. D. Galanin, I. M. Frank, Phys Inst imeni Lebedev, Acad Sci USSR

"Zhur Eksper i Teoret Fiz" Vol XXI, No 2, pp 115-120

Discusses concd extinguishment of fluorescence of soln and extinguishment by absorbing substances from standpoint of classical electrodynamics as effect of absorbing medium on mol radiation.

LC 180T94

180T95

USSR/Physics - Fluorescence Feb 51

"Extinguishment of Fluorescent Solutions by Absorbing Substances, I," M. D. Galanin, L. V. Levshin, Phys Inst imeni Lebedev, Acad Sci USSR

"Zhur Eksper i Teoret Fiz" Vol XXI, No 2, pp 121-125

Examd variation of output and duration of fluorescence during extinguishment of fluorescence of 3-aminophthalamide soln and of some other substances by nonfluorescent dyes and by dyed inorg extinguisher ($CrCl_3$).

LC 180T95

GALANIN, M. D. 180T96

USSR/Physics - Fluorescence Feb 51

"Extinguishment of Fluorescence of Solutions by Absorbing Substances, II," M. D. Galanin, Phys Inst imeni Lebedev, Acad Sci USSR

"Zhur Eksper i Teoret Fiz" Vol XXI, No 2, pp 126-132

Examd variations in duration of fluorescence of frozen soln of uranyl salts during extinguishment by absorbing substances. Presents data on sensitized fluorescence of soln. Classical theory of extinguishment by absorbing substances is satisfied by exptl data.

LC 180T96

GALANIN, M. D.

USSR/Physics - Photoluminescence

FD 426

Card 1/1 Pub. 147-12/16

Author : Galanin, M. D., and Chizhikova, Z. A.

Title : Yield of photoluminescence of certain organic crystals

Periodical : Zhur. eksp. i teor. fiz. 26, 624-628, May 1954

Abstract : The method of Alentsev and Vinokurov (Izv. AN SSSR, Ser. fiz. 15,725, 1951 is used to measure the absolute quantum yield of photoluminescence of fine crystalline organic substances (paradiphenylbenzol, anthracene, stilbene, naphthalin, etc.). For anthracene, the authors measure the yield of luminescence of a flat crystal by way of comparison with a fluorescein solution. They show that a yield close to unity is obtained when suitable corrections are introduced. Thank M. N. Alentsev.

Institution : Physics Institute imeni P. N. Lebedev, Acad Sci USSR

Submitted : August 31, 1953

Category : USSR/Optics - Physical optics K-5

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 2364

Author : Belyayev, L.M., Galanin, M.D., Morgenshtern, Z.L., Chizhikova, Z.A.
Inst : Phys. Inst. Acad. of Sciences USSR; Inst. of Crystallography, Acad. of Sci. USSR
Title : Dependence of the Yield of Gamma and Photoluminescence of KI-Tl Crystals on the Thallium Concentration

Orig Pub : Dokl. AN SSSR, 1954, 99, No 5, 691-694

Abstract : The luminescence yield η was determined for KI-Tl phosphors with a concentration of Tl of 2.35×10^{-6} to 1.2×10^{-3} g/g in the finished crystal, for excitation with gamma rays from Co^{60} and for optical excitation In the former case, the intensities of the individual scintillations and the summary average brightness of the glow were measured. In both cases, η first increases approximately linearly with increasing Tl concentration, and then more slowly, disclosing a tendency to saturation at approximately 10^{-3} g to Tl per gram of KI. A curve of similar form is observed in the case of optical excitation in the band of the intrinsic absorption of the KI lattice (λ= 200 mμ), thus evidencing a certain community of luminescence mechanism in both cases. In the case of excitation in the first (long-wave) absorption band of Tl (λ= 287 mμ), η is independent of the concentration of Tl, but in the cases of excitation in the 240-245 mμ region, where the Tl absorption is overlapped by the edge of the

Card : 1/2

Category : USSR/Optics - Physical optics

K 5

Abs Jour : Ref Zhur - Fizika, No 1, 1957 No 2364

intrinsic lattice absorption, η increases rapidly up to concentrations of approximately 1.5 x 10^{-4} g of Tl per gram of KI, and becomes independent of the Tl concentration beyond that. This indicates a low effectiveness in the transfer of the absorbed energy from the basic substance to the Tl.

Card : 2/2

GALANIN, M. D.

"The Luminescence of Organic Substances Under the Action of High-Energy Particles and Photons" paper presented at the Conference on Molecular Luminescence and Luminescent Analysis, MINSK from 20 to 25 June 1955.

~~Galant~~

Galanin, M.D.

62 The influence of concentration on luminescence in solutions. M. D. Galanin. *Zhur. Eksptl. i Teoret. Fiz.* 28, 485-95(1955).—A theory of energy transfer applied to luminescence phenomena is developed. By assuming this energy transfer, the influence of diffusion in a viscous medium, and a bimol. process, an equation is derived for the decay of luminescence. From this equation other formulas are derived for the dependence of luminous output and the duration and the degree of polarization of luminescence. Measurements were performed on fluorescent-dye solns. of varying concn. The measurements covered the polarization of the luminescence, the relative yield, absorption spectra, the dependence of the yield on the wave length of the exciting light, the duration of fluorescence, and the natural lifetime of excited mols. Empirical data obtained through measurements on fluorescein, Rhodamine, and Acridine Orange solns. compare favorably with figures obtained by means of the energy-transfer theory.

S. Pakswer

GALANIN, M.D.

Category : USSR/Optics - Physical optics K-5

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 2363

Author : Belyayev, L.M., Galanin, M.D., Morgenshtern, Z.L., Chizhikova, Z.A.

Inst : Phys. Inst. Acad. of Sciences USSR; Inst. of Crystallography Acad. of Sciences USSR

Title : Dependence of the Yield of Gamma and Photoluminescence of NaI-Tl Crystals on the Thallium Concentration.

Orig Pub : Dokl. AN SSSR, 1955, 105, No 1, 57-60

Abstract : The relative luminescence yields φ of NaF-Tl crystals excited by gamma rays from Co^{60} and photo-excited at 289 and 254 mμ were measured as functions of the concentration c of Tl, which was determined polarographically. It is shown that in the long-wave absorption band of Tl the index of light absorption is proportional to c, so that for low thallium concentration the value of c could be determined from the absorption. In the case of the 289 mμ excitation, i.e., in the first (long-wave) absorption band of Tl, φ is independent of c up to values of c amounting to 10^{-3}M. In the case of the 254 mμ excitation, φ increases up to c ~ 2 x 10^{-4}M and becomes independent of c beyond that. An analogous dependence is observed also in gamma excitation. The half value of the limiting φ of gamma luminescence is attained at c = 5.9 x 10^{-5}M. The scintillation brightness is greater in NaI-Tl than in Ki-Tl, but the summary glow

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Category : USSR/Optics - Physical optics K-5

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 2363

of NaI-Tl, for sufficiently large values of c, exceeds the summary glow of NaI-Tl, and this is explained by the considerably greater fraction of phosphorescence in the glow of Ki-Tl.

Card : 2/2

GALANIN, M.D.

4

Reabsorption of luminescence in thin layers. M. D. Galanin (P. N. Lebedev Phys. Inst., Moscow). Doklady Akad. Nauk S.S.S.R. 105, 700-2(1955).—Based on the fundamental electrodynamic equations it was shown that previously observed (C.A. 44, 111a) deviation from the Bouguer's law, i.e., an increase in the coeff. of absorption during the reabsorption of luminescence in a layer with thickness equal to wave length of light, is related to the structure of electromagnetic field in the vicinity of emitting mol.
A. P. Kotloby

Phys

Name:	GALANIN, Mikhail Dmitriyevich
Dissertation:	Resonant Transfer of Excitation Energy in Luminescent Solutions
Degree:	Doc Phys-Math Sci
Affiliation:	/Not indicated/
Defense Date, Place:	27 Feb 56, Council of Physics Inst imeni Lebedev, Acad Sci USSR
Certification Date:	13 Oct 56
Source:	BMVO 6/57

VAVILOV, S.I.; LEBEDEV, A.A., akademik; TOPCHIYEV, A.V., akademik; TERENIN, A.N., akademik; LANDSBERG, G.S., akademik; VUL, B.M.; KRAVETS, T.P. [deceased]; LEVSHIN, V.L.; FEOFILOV, P.P.; GALANIN, M.D.; KUZNETSOV, I.V.; VAVILOV, V.S.; GUROV, K.P., redaktor izdatel'stva; KISELEVA, A.A., tekhnicheskiy redaktor

[Collected works] Sobranie sochinenii. Moskva, Izd-vo Akademii nauk SSSR. Vol.4.[Experimental foundation of the theory of relativity. On "warm" and "cold" light. The eye and the sun. Popular scientific articles and reviews] Eksperimental'nye osnovaniia teorii otnositel'nosti, O "teplom" i "kholodnom" svete, Glaz i solntse, Nauchno-populiarnye i obzornye stat'i. 1956. 469 p. (MIRA 9:8)

1. Chlen-korrespondent AN SSSR (for Vul, Kravets)
(Physics)

ГАЛАНИН, М.Д.

USSR/Photochemistry - Radiation Chemistry. Theory of Photographic Process. B-10

Abs Jour : Referat Zhur - Khimiya, No 6, 1957, 18653

Author : T.P. Belikova, M.D. Galanin.

Title : Photoluminescence Sensibilization by Solvent.

Orig Pub : Optika i spektroskopiya, 1956, 1, No 2, 168-174

Abstract : The transfer of excitation energy to the dissolved luminescent substance is observed at the photoluminescence excitation of terphenyl solution in xylene and of anthracene in toluene by the light absorbed in the solvent. The measurement of the absorption indices and luminescence yield confirms that the energy transfer cannot be explained by the reabsorption of solvent luminescence by the dissolved substances. The transfer probability computed from experimental data exceeds the probability expected in accordance with the resonance transfer theory. It is surmised that this is explained by the molecule diffusion during the excited state.

Card 1/1

ГАЛАНИН, М.Д.

USSR / Physical Chemistry. Crystals. B-5

Abs Jour : Ref Zhur - Khimiya, No 8, 1957, 25924

Author : M.D.Galanin, Z.A. Chizhikova.

Title : Excitation Energy Transfer in Abthracene Crystals with Naphthacene Impurities.

Orig Pub : Optika i spektroskopiya, 1956, 1, No 2, 175 - 180

Abstract : Mixed crystals of anthracene (I) - naphthacene (II) containing from 10^{-5} to 5 x 10^{-5} g/g of II were prepared by fusion in vacuum. It was experimented with powders excited with λ = 365 mu. The relative yields B / B_0 (where B_0 is the yield of pure I and II) and the luminescence and absorption spectra of I and II in impure crystals were measured, and the duration of fluorescence of I and II was determined. τ and especially B / B_0 drop sharply with the increase of the concentration of II in the region between 10^{-5} and 10^{-4} g/g. τ is constant in the region between 10^{-4} and 5 x 10^{-4} g/g, but B / B_0 decreases slowly.

Card : 1/2

USSR / Physical Chemistry. Crystals. B-5

Abs Jour : Ref Zhur - Khimiya, No 8, 1957, 25924

Abstract : τ of II at the excitation λ = 436 mu, i.e. within its absorption band, is about 12 x 10^{-9} sec., and at the excitation λ = 365 mu, i.e. in the absorption band of anthracene, it is about 20 x 10^{-9} sec, if the II concentration was small. It was concluded that in the region from 10^{-5} to 10^{-4} g/g, the changes of τ are analogous to those observed in the sensibilized luminescence of liquid solutions (Galanin M.D., Izv. AN SSSR, ser. fiz., 1951, 15, 543). The location of absorption and luminescence spectra suggests the possibility of three kinds of the resonance transfer of the excitation energy: I→I, I→II and II→II. The comparison of the experimental results with the theory of the energy resonance transfer indicates the important part of the energy migration in the lattice of I, i.e. of the transfer I→I, in the process of the energy transfer from I to II. The hypothesis that this migration is caused by "localized excitons" is expressed.

Card : 2/2

GALANIN, M.D.

Phys.

Absolute luminescence yield of γ-scintillations in naphthalene crystals containing anthracene. M. D. Galanin and A. P. Grishin. *Soviet Phys., JETP* 3, 32-[illegible](Engl. translation).—See C.A. 50, 14380b. R. M. R.

2

GALANIN, M.D.

21

The yields of γ- and photoluminescences of organic crystals. Z. A. Chizhikova and M. D. Galanin. *Soviet Phys., JETP* 3, 115-16(1956)(Engl. translation).—See *C.A.* 50, 14300f. B. M. R.

2

3

GALANIN, M.D.

USSR/Physical Chemistry, Photo Chemistry, Radiation Chemistry, Theory of Photographic Process. B-10

Abs Jour : Ref Zhur - Khimiya, No 7, 1957, 22451.

Author : T. P. Belikova, M. D. Galanin, Z. A. Chizhikova.
Inst : Not given
Title : Transfer of excitation energy from the solvent to the dissolved luminophore in liquid and in solid solutions.

Orig Pub : Izv. A.N. USSR, ser. fiz. 1956, 20, No 4, 384-387.

Abstract : Theory of energy resonance transmission is applied on the examination of the phenomena of the energy transmission from the solvent to the dissolved luminophore, excited by emanation of a great quantity of energy in solutions of terphenyl in xylene, and anthracene in toluene. The transfer of energy cannot be explained in this case by reabsorption by reason of a small luminescence yield of pure solvents. Comparison with the theory of resonance transfer showed, that experimental values of the probability of energy transfer from the solvent to the luminophore of more than by one degree surpasses values computed theoretically, and supposing that molecules remain stationary during their state of excitation. If we take into consid-

Card 1/2

GALANIN, M.D.

Luminescence of organic substances subjected to the action of particles and hard radiation. Izv.AN SSSR Ser.fiz:20 no.4:392-396 Ap'56.
(MIRA 10:1)

1. Fizicheskiy institut imeni P.N. Lebedeva Akademii nauk SSSR.
(Luminescence) (Fluorescence)

GALANIN, M. D.

USSR/Physical Chemistry - Crystals, B-5

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 60908

Author: Galanin, M. D., Grishin, A. P.

Institution: None

Title: Absolute Yield of Luminescence During γ-Scintillations in Crystal of Naphthalene with Anthracene

Original Periodical: Zh. eksperim. i teor. fiziki, 1956, 30, No 1, 33-41

Abstract: By means of a unit calibrated in absolute units it was found that absolute energy yield of luminescence during γ-scintillations caused by compton electrons in a crystal of naphthalene with anthracene (1%) is 0.7±0.2%. On the basis of Birks theory (Birks, J. B., Proc. Phys. Soc., 1951, 64, 874; Phys. Rev., 1952, 86, 569) the conclusion is derived that energy lost for excitation of luminescence constitutes a definite portion of total loss of energy [illegible] unit of pathway of particle, regardless of the energy of the latter. Considered is the possible contribution of various processes to the excitation of luminescence.

Card 1/1

GALANIN, M.D.

Category : USSR/Optics - Physical optics K-5

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 2356

Author : Chizhikova, Z.A., Galanin, M.D.
Inst : Physics Institute Academy of Sciences USSR
Title : Gamma and Photoluminesce Yield of Organic Crystals

Orig Pub : Zh. eksperim. i teor. fiziki, 1956, 30, No 1, 187-188

Abstract : The relative luminescence yield of monocrystals of aromatic hydrocarbons was measured for gamma excitation (from Co^{60}) and for photo excitation ($\lambda = 254$ [illegible]). The gamma-excitation yield was determined: a) by measuring the average glow intensity in a photometric sphere, and b) by measuring the relative values of the scintillations with a counter having an integral discriminator, using the constant counting-rate method. The previously measured absolute quantum yields were used to recalculate the obtained data to the absolute scale. The relationship $B_\gamma = \quad B^q_{ph}$ between the energy yield by gamma excitation (B_γ) and the absolute quantum photoluminescence yield (B^q_{ph}) was used to determine the effectiveness of the luminescence by gamma excitation (ρ). This value is the same for all organic crystals (approximately 1--1.2%). The values of B^q_{ph} are 50% for tolane, 50% for stilbene, 17% for naphthalene, 30% for terphenyl, and 44% for dibenzyl.

Card : 1/1

GALANIN, M D

51-4-18/26

AUTHORS: Antonov-Romanovskiy, V. V. and Galanin, M. D.

TITLE: On a Theoretical Derivation of the Decay Law of Luminescence for the Case of Resonance Quenching. (O teoreticheskom vyvode zakona zatukhaniya lyuminestsentsii pri rezonansnom tushenii.)

PERIODICAL: Optika i Spektroskopiya, 1957, Vol.III, Nr.4. pp.389-391. (USSR)

ABSTRACT: B. Ya. Sveshnikov (Ref.1) criticised a theoretical derivation of the decay law of luminescence in the case of concentration (or more generally, resonance) quenching given in Refs. 2, 3 by Förster and Galanin respectively. These criticisms of Sveshnikov are based on a misunderstanding. The present authors derive the decay law in greater detail. The present derivation is based on a method proposed by one of the authors (Ref.4). It is assumed here that luminescent quenching in solution occurs due to induction-resonance transfer of the excitation energy from the excited to non-excited molecules. If viscosity of the medium is sufficiently great to neglect

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the displacement of molecules in the lifetime of the excited state, then, due to the strong dependence of the probability of transfer of energy on distance, an effect, called "impoverishment" in Ref.4, occurs. The probability of transfer of energy averaged for all the excited molecules changes with time, since to start with those configurations which are more favourable for transfer of energy are active. This is the physical reason for the decay law of luminescence to be non-exponential under resonance quenching conditions. To deduce the decay law we shall assume that at zero time there are n_0 excited molecules and we shall write down the kinetic equation for the number of excited molecules n(t). To take into account the impoverishment effect it is not necessary to include the fluctuations of density of the quenching molecules as it is assumed by Sveshnikov. It is sufficient to use in the derivation only average (mean) quantities (Ref.3). The present authors re-derive the

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decay law - (Eq.6 on p. 390)

$$n(t) = n_0 e^{-\frac{t}{\tau_0} - 2q\sqrt{\frac{t}{\tau_0}}},$$

where q is a constant which depends on R_0, and R_0 is a constant which depends on the properties of interacting molecules; τ_0 is the average lifetime of the excited state in absence of quenching. The decay law quoted above (Eq.6 on p.390) is identical with that obtained by Förster (Ref.2). The authors deal also with Sveshnikov's criticisms of Förster's work. In particular the authors show that Sveshnikov's formula given by Eq.8 in the present paper is identical with Förster's formula, given by Eq.7 on p.391, when the number of excited molecules at zero time is sufficiently large. There are 4 references, 3 of which are Slavic.

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51-4-18/26

On a Theoretical Derivation of the Decay Law of Luminescence for the Case of Resonance Quenching.

ASSOCIATION: Physical Institute imeni P.N. Lebedev, Academy of Sciences of USSR (Fizic[illegible] P.N. Lebedeva AN SSSR.)

SUBMITTED: March 9, 1957.

AVAILABLE: Library of Congress.

Card 4/4

Galanin, M.D.

SUBJECT: USSR/Luminescence 48-4-28/48

AUTHORS: Belyayev L. M., Galanin M.D., Morgenshtern Z.L. and Chizhikova Z.A.

TITLE: Dependence of Gamma- and Photoluminescence Yield of Alkali Iodides Activated by Tallium on the Concentration of the Activator (Zavisimost' vykhoda gamma- i fotolyuminestsentsii shchelochnykh iodidov, aktivirovannykh talliyem ot kontsentratsii aktivatora)

PERIODICAL: Izvestiya Akdademii Nauk SSSR, Seriya Fizicheskaya, 1957, Vol 21, #4, p 548 (USSR)

ABSTRACT: This investigation was aimed at clarification of the problem, what is the concentration of an activator, for which the energy transfer from the lattice to the activator proceeds with a sufficient effectiveness.

Investigations were carried out with single crystals of NaJ, KJ and CsJ activated by tallium, whose concentration was determined by the polarographic method. The measurements of relative yield due to excitation by light have shown that the yield does not depend on concentration, that is, no concentration quenching was observed within the limits investigated (up to

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AUTHOR: GALANIN, M.D. PA - 2635

TITLE: The Investigation of Scintillators for Recording Nuclear Radiation. (Issledovanie stsintillyatorow dlya registratsii yadyernykh izlucheniye, Russian)

PERIODICAL: Vestnik Akademii Nauk SSSR, 1957, Vol 27, Nr 3, pp 130 - 131 (U.S.S.R.)

Received: 6 / 1957 Reviewed: 6 / 1957

ABSTRACT: The modern scintillation counter, which includes a luminescent substance (scintillator) and a photoelectric multiplier, was produced less than 10 years ago. In a short time counters will be produced which register all sorts of nuclear radiations. Thanks to their efficiency and other properties these counters have become indispensible for scientific research not only in the field of nuclear physics, but also in various other fields of science. We know from lectures and reports delivered at the conference of the Department of Physics and Mathematics (October 1956) that this problem extends to chemical, physical, chemical-physical, and technical questions. Also crystal scintillators were mentioned as well as methods of breeding alkaline-halide and organic crystals Reports were also delivered concerning new synthetic luminescent substances for liquid and plastic scintillators, as well as concerning methods employed for the polymerization of plastic scintillators. Considerable interest was further caused by the

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The Investigation of Scintillators for Recording Nuclear Radiation. PA - 2635

problem of the connection between luminescence and chemical structure as well as the transmission of energy in liquid and plastic scintillators. Various other problems are then dealt with in short. Cooperation between research workers and the industry was described as being unsatisfactory.

ASSOCIATION: Not given.
PRESENTED BY:
SUBMITTED:
AVAILABLE: Library of Congress.

Card 2/2

GALANIN, M.D., doktor fiziko-matematicheskikh nauk.

International colloquim on luminescence. Priroda 46 no.2:106-107
F '57.
(MIRA 10:3)

1. Fizicheskiy institut im. P.N. Lebedeva Akademii nauk SSSR, Moskva.
(Paris--Luminescence--Congresses)

AUTHORS: Galanin, M. D. and Chizhikova, Z. A. 51-4-2-9/28

TITLE: On Quenching the Luminescence of Organic Substances Excited with α-particles. (O tushenii lyuminestsentsii organicheskikh veshchestv pri vozbuzhdenii α-chastitsami.)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol. IV, Nr. 2, pp. 196-202 (USSR).

ABSTRACT: The ratio of luminescence yields was measured on excitation with Po^{210} α-particles and Co^{60} γ-rays of organic crystals (stilbene, tolane, dibenzyl, naphthalene), plastics (polystyrene with diphenyloxazole) and solutions (terphenyl in xylol, 2,5-diphenyloxazole in xylol). In the case of Co^{60} γ-rays the scintillations are caused by Compton electrons. Scintillations were recorded by means of a usual scintillation counter and a differential pulse analyser (Fig. 1 shows pulse distribution obtained for a tolane crystal). A table on p. 198 shows that the ratio of yields due to α-particles and γ-rays for all the substances studied is equal to 0.10 ± 0.1. To find the nature of the quenching process carbon tetrachloride was used to quench α- and γ-luminescence of terphenyl dissolved in xylol. The results of quenching with CCl$_4$

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On Quenching the Luminescence of Organic Substances Excited with α-particles. 51-4-2-9/28

are shown in Figs.2 and 3. Fig.4 gives the dependence of the relative yield of solutions of terphenyl in xylol on concentration of xylol. From quenching of terphenyl the author concludes that the low yield on α-excitation is due to, mainly, quenching during a time which is short compared with the excited-state lifetime (quenching of type I). The authors thank L.M. Belyayev for supply of crystals, L.D. Galanina for preparation of plastics and B.M. Mikhaylov for supply of terphenyl. There are 4 figures, 1 table, 11 references of which 3 are Soviet and 8 English and American.

ASSOCIATION: Physics Institute imeni P.N. Lebedev, Academy of Sciences of the USSR. (Fizicheskiy institut im. P.N. Lebedeva, AN SSSR.)

SUBMITTED: April 5, 1957.

1. Organic materials-Luminescence-Test results 2. Alpha particles-Applications

Card 2/2

SOV/51-4-6-7/24

AUTHOR: Galanin, M.D.

TITLE: On the Causes of Dependence of the Luminescence Yield of Organic Substances on the Energy of Ionizing Particles (O prichinakh zavisimosti vykhoda lyuminestsentsii organicheskikh veshchestv ot energii ionizuyushchikh chastits)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol IV, Nr 6, pp 758-762 (USSR)

ABSTRACT: The luminescence yield of organic substances excited by ionizing particles decreases with the particle energy at high energies. This dependence may be represented as a dependence of "specific luminescence" $L' = dL/dx$, which is luminescence per unit length of particle track, on specific energy loss of the particle $E' = dE/dx$. According to Birks (Ref 1) dependence of L' on E' is given by Eq. 1 on p. 758: $L' = AE'/(1 + BE')$. This equation is obeyed by various organic substances (see Refs 1, 2) in which migration of excitation energy differs widely. The factor responsible for quenching at high particle energies should, therefore, be sufficiently universal in order to apply to different organic substances and it should not depend on the rate of migration of excitation energy. The

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On the Causes of Dependence of the Luminescence Yield of Organic Substances on the Energy of Ionizing Particles SOV/51-4-6-7/24

present paper discusses the hypothesis of temperature quenching of luminescence in the ionization channel as a cause of decrease of the luminescence yield with increase of the ionizing particle energy. This hypothesis is based on Zeytts' idea of a "thermal flash" and it was discussed qualitatively in Ref 11. Thermal conductivity of organic scintillators is greater than the coefficient of diffusion of excitation in the majority of luminescing systems. Consequently in the first approximation we may discuss the action of temperature quenching on the initial distribution of excited molecules. On passage of the ionizing particle through the scintillator a considerable portion of the molecules receives an excitation energy greater than the first excited level from which emission occurs. In organic molecules this excess of energy is quickly dissipated into heat. It is shown that the temperature quenching of luminescence in the excitation channel may play an essential role and it may produce strong quenching of excited molecules produced by the primary particle. The general discussion is tested by calculation for anthracene excited by 5.3 MeV α-rays. At large values of the specific energy loss

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On the Causes of Dependence of the Luminescence Yield of Organic Substances on the Energy of Ionizing Particles SOV/51-4-6-7/24

E' the theoretical temperature quenching is found to be stronger than that observed experimentally. It is probable that at high energies secondary electrons are important in excitation of luminescence. At such energies the main excitation channel may be already completely quenched but luminescence can still be produced by secondary electrons whose paths go outside the limits of the quenching zone. This would explain the difference between the experimental and theoretical values (the latter calculated on the assumption of temperature quenching) which was mentioned above. There are 1 figure and 13 references, 6 of which are Soviet, 3 English, 2 American, 1 Polish and 1 French.

ASSOCIATION: Fizicheskiy Institut im. P.N. Lebedeva AN SSSR (Physics Institute imeni P.N. Lebedev, Academy of Sciences of the U.S.S.R.)

SUBMITTED: July 26, 1957

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Galanin, M. D.

AUTHORS: Nikitina, A. N., Galanin, M. D., Aronovich, P. M., 48-1-2/20
Shchegoleva, T. A., Mikhaylov, B. M.,

TITLE: An Investigation of Boron Organic Compounds Containing Scintillators (Issledovaniye stsintillyatorov, soderzhashchikh bororganicheskiye soyedineniya)

PERIODICAL: Izvestiya AN SSSR Seriya Fizicheskaya, 1958, Vol. 22, Nr 1, pp. 12-13 (USSR)

ABSTRACT: The authors investigated a number of organoboron compounds (some of them were for the first time obtained in reference 3) for the purpose of determining the possibility of using them for the recording of slow neutrons. The esters of alkyk- and dialkyl boric acid were investigated on teir introduction into a liquid scintillator - a p-terphenyl-solution. It became evident that the intensity of the γ-scintillation of the latter does almost not change. Trimethylborate used in the practice of nuclear physics weakens the γ-luminescence of the p-terphenyl-solution by 30%. It is shown that the esters of aryl- and diarylboric acid on their introduction into a p-terphenyl-solution cause a considerable weakening of the scintillation of the latter (30-90%). The organoboron compounds with aryl-substituents themselves possess a weak γ-luminescence.

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An Investigation of Boron Organic Compounds Containing Scintillators. 48-1-2/20

There are 1 table, and 6 references, 3 of which are Slavic.

ASSOCIATION: Institute for Organic Chemistry **imeni N.D. Zelinskiy AS USSR** (Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR) Institute for Physics **imeni P.N. Lebedev AS USSR** (Fizicheskiy institut im. P.N. Lebedeva. AN SSSR)

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1. Chemistry 2. Boron compounds-Application

Card 2/2

GALANIN, M.D.

NIKITINA, A.N.; GALANIN, M.D.; ARONOVICH, P.M.; SHCHEGOLEVA, T.A.;
MIKHAYLOV, ~~B.M.~~

Analysis of scintillators containing boron organic compounds.
Izv. AN SSSR. Ser. fiz. 22 no.1:14-20 Ja '58. (MIRA 11:2)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR i
Fizicheskiy institut im. P.N. Lebedeva AN SSSR.
(Scintillation counters)
(Nuclear physics--Instruments)

GALANIN, M. D.

AUTHORS: Belikova, T. P., Galanin, M. D. 48-1-11/20

TITLE: On the Process in the Transfer of Energy in Scintillation-Plastics (O mekhanizme perenosa energii v stsintillyatsionnykh plastmassakh).

PERIODICAL: Izvestiya AN SSSR Seriya Fizicheskaya, 1958, Vol. 22, Nr 1, pp. 48-49 (USSR).

ABSTRACT: Two kinds of plastics with different activator-concentration were investigated here, polystyrene with anthracene and polystyrene with p-terphenyl. The luminescence was in the plastics excited by the ultraviolet light in the absorption range of polystyrene.
The methods form reference 1 were employed for the determination of the probability of a resonance-transfer and the probability of a transfer by way of radiation (in the case of reabsorption of the luminescence of polystyrene). It became evident that the absolute quantum yield of luminescence in pure polystyrene amounts to $\eta_p \approx 0{,}09$. This is in agreement with that of reference 2. It is shown that in the range of the investigated concentrations in the case of anthracene the probability of the transfer by radiation is commensurable with that without it, whereas, in the case of p-terphenyl, the transfer without radiation (radiationless transfer) prevails. The probability of transfer to be expected according to theory (references 5 and 6) was calculated

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On the Process in the Transfer of Energy in Scintillation-Plastics. 48-1-11/20

from the overlap of the absorption-spectra of luminophores and the luminescence-spectrum of polystyrene. The values are in agreement with those of theory, which confirms the induction-resonance character of the radiationless transfer of energy in the plastics. This conclusion does not apply to the case investigated here of a photoexcitation as well as to an excitation with high energy, as the concentration-dependence of the intensity is completely equal in both cases. M. M. Koton placed the plastic-samples investigated at the author's disposal. There are 2 figures, 1 table, and 8 references, 5 of which are Slavic.

ASSOCIATION: Institute for Physics **imeni P.N. Lebedev** AS USSR (Fizicheskiy institut imeni P. N. Lebedeva AN SSSR).

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1. Crystals 2. Polystyrene-Luminescence

Card 2/2

AUTHORS: Galanin, M. D., Chizhikova, Z. A. SOV/48-22-9-8/40

TITLE: ~~On the~~ Problem of the Connection Between the Kravets Integral and the Duration of the Excited State of Molecules (K voprosu o sootnoshenii mezhdu integralom **Kravtsa** i dlitel'nost'yu vozbuzhdennogo sostoyaniya molekul)

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1958, Vol 22, Nr 9, pp 1043 - 1046 (USSR)

ABSTRACT: In the case of luminescence with a quantum yield equal to unity the probability of a transition from the excited state is the same as the probability of emission $1/\tau_0$ (τ_0 denotes the average duration of the excited state).

In the absorption the transition probability is proportional to the area of the absorption band (Kravets integral). In the present paper experimental data are given; these data by some examples demonstrate the ratio between $1/\tau_0$ and the area of the first absorption band for luminescing substances with high quantum yield. The authors measured the quantities $\tau(\tau=\tau_0\varrho)$, the absorption spectra, and the

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On the Problem of the Connection Between the Kravets SOV/48-22-9-8/40
Integral and the Duration of the Excited State of Molecules

quantum yield of luminescence of several luminescing solutions. The duration of the excited state was measured by means of a phase-fluorometer; the absorption spectra of the solutions were determined by means of the spectro-photometer **SF-4** . In order to ascertain the quantum yield a comparison with the fluorescein solution was made. The yield of the fluorescein solution lately was determined according to the method described in reference 9. The table contains the results of the measurements; the figure shows several absorption- and luminescence spectra. In the computation of τ_0 according to the absorption the effective Lorentz (Lorents) field was employed. The values of τ_0 which were determined according to the surface of the absorption band agree for all solutions with the values computed according to the measured τ and ρ. A considerable deviation is observed in the case of the anthracite crystal. This difference between crystal and solution is rather natural and possible. It depends on the strength of the effective field in the

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On the Problem of the Connection Between the Kravets Integral and the Duration of the Excited State of Molecules SOV/48-22-9-8/40

crystal. There are 1 figure, 1 table, and 11 references, 6 of which are Soviet.

ASSOCIATION: Fizicheskiy institut im.P.N.Lebedeva Akademii nauk SSSR (Physics Institute imeni P.N.Lebedev, AS USSR)

Card 3/3